

REMARKS

I. General

Claims 1-3, 5-15, and 17-23 are pending in the application. Claims 1, 5-7, and 15 are amended, claims 4 and 16 are canceled, and claims 22 and 23 are added by this response. The issues in the Office Action of June 6, 2005 are as follows:

- Claim 15 is rejected under 35 U.S.C. § 102(b) as being anticipated by US 5,898,517 (hereinafter, *Weis*).
- Claims 1-14 and 16-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Weis*.

Applicant hereby traverses the rejections and requests reconsideration and withdrawal in light of the remarks and amendments contained herein.

II. Claim Amendments

Claim 1 is amended to include the limitations of claim 4, and claim 15 is amended to include the limitations of claim 16. Claims 5-7 are amended to depend from claim 1. Thus, no new matter is added.

III. New Claims

Claims 22 and 23 are added by this amendment. Support may be found at least at paragraphs [0019] and [0022]-[0023] and Figures 4A and 4B of the original application. Thus, no new matter is added. Claims 22 and 23 are patentable at least because the cited art does not teach the claimed optical intensity modulator.

IV. Claim Rejections

A. Rejections under 35 U.S.C. § 102

On page 2 of the office action, claim 15 is rejected under 35 U.S.C. § 102(b) as anticipated by *Weis*. Applicant requests reconsideration in light of the amendment.

Claim 15 recites, in part, “concurrently modulating said electrical signal by interacting with said input light beam using electroabsorption modulation.” Claim 15 is amended to include the above feature of claim 16. *Weis* does not teach that feature, as it only teaches modulating a light signal. See, e.g., Abstract of *Weis*. It should also be noted that the Office Action does not point to any portion of *Weis* to teach or suggest this feature in rejecting claim 16. Thus, *Weis* does not teach each and every feature of claim 15. Accordingly, withdrawal of the 35 U.S.C. § 102(b) rejection of claim 15 is respectfully requested.

B. Rejections under 35 U.S.C. § 103

On pages 3-4, claims 1-14 and 16-21 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over *Weis*. Claims 4 and 16 are canceled.

Amended claim 1 recites, in part, “said optical signal modulator is an electroabsorption modulator (EAM).” *Weis* does not teach or suggest this feature of claim 1, and the Office Action admits such at page 2. Further, the Office Action states, “For claims 4-6, 16, the use of an EAM is known in the field (see reference below-not relied on) and one skilled in the art would choose a modulator based on cost and space.” The rejection is incorrect because it does not provide a proper motivation to modify the system of *Weis*, as suggested. It is well settled that the fact that references can be combined or modified is not sufficient to establish a *prima facie* case of obviousness, M.P.E.P. § 2143.01. There must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the applied reference. See M.P.E.P. § 2143. First, the Office Action merely mentions cost and space as criteria, but mentions no suggestion or motivation to make the modification. The rejection is incomplete because criteria are no the same as a suggestion or motivation. Second, *Weis* teaches against modifying its disclosed system by using an EAM. See the passage at column 3, lines 1-18, of *Weis* that explains that modulating the intensity of a light signal (as in an EAM) requires “complex” circuitry that is not fit for the “harsh borehole” conditions that the *Weis* system is designed for. Thus, not only does the Office Action fail to provide motivation for the combination, such a combination is specifically taught against by *Weis*. Therefore, the

rejection of claims 4-6 and 16 is incorrect and should be withdrawn. Accordingly, *Weis*, as modified, does not teach or suggest each and every feature of amended claim 1.

Dependent claims 2, 3, 5-14, and 17-21 each depend either directly or indirectly from independent claims 1 and 15, respectively, and, thus, inherit all of the limitations of those independent claims. Thus, *Weis* does not teach or suggest all claim limitations of claims 2, 3, 5-14, and 17-21. It is respectfully submitted that dependent claims 2, 3, 5-14, and 17-21 are allowable at least because of their dependence from claims 1 and 15 for the reasons discussed above. Accordingly, Applicant respectfully requests the withdrawal of the rejection of claims 1-3, 5-14, and 17-21.

V. Conclusion

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-1078 , under Order No. 10040010-1 from which the undersigned is authorized to draw.

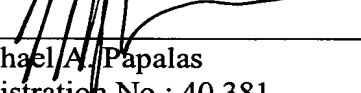
Dated: September 6, 2005

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV482711076US, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O.Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: September 6, 2005

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Respectfully submitted,

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